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January 25, 2002

Mr. Stan Komperda
Project Manager
Illinois Enviromental Protection Agency (IEPA)
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

Re: Lockformer Work Plan
Lockformer Site
Lisle, DuPage County, Illinois

Dear Mr. Komperda:

We are enclosing our comments on the *Lockformer Work Plan,* prepared by Clayton Group Services, and submitted on December 13, 2001, for the Lockformer site located in Lisle, Illinois. These comments are based upon our independent review, and upon our joint discussions held at USEPA's offices on January 24, 2002.

GENERAL COMMENTS

1. Section 1 should make a clear distinction between the Removal Action this Work Plan addresses, and any further remediation of soils and/or groundwater that may be required. The Work Plan should make clear that the remedial objectives discussed in this report are developed only for the Removal Action related to soils in Areas 1 and 2. Alternate remedial objectives would need to be developed for the final remediation of both soils and groundwater in all three areas at the Lockformer site.

2. The discussion of delineation in Area 3 appears to focus only on the sewer line along the southern boundary of the site, and not full delineation of the contamination located on the remainder of Area 3. Specifically, contamination found in the retention basin (CSB-1573) and in the vicinity of MW-1113S must also be fully delineated.

3. To determine whether the bedrock aquifer is contaminated at the southern boundary of the Lockformer property, two (2) bedrock monitoring wells should be installed. One of these wells should be located between CSB-1562 and CSB-1563, and the other well should be located between CSB-1567 and CSB-1568. Each well should be installed 50 feet into competent bedrock. Each well should be packer-tested at 10-foot intervals, and sampled according to the protocols developed for the previous bedrock well installations at the Lockformer site.

4. The extent of shallow zone contamination has not yet been determined to the south. Accordingly, three monitoring wells should be installed south of the Lockformer property and the Burlington Northern railroad, but north of St. Joseph Creek, along the access road running east-west on the Burlington Northern easement. These wells should each be installed to the top of bedrock, and be logged and sampled according to the protocols developed for the previous monitoring well installations at the Lockformer site.

5. After the delineation in Areas 1 and 2 is completed, a Confirmation Sampling Plan should be developed and submitted to USEPA. This plan should contain exact locations for all confirmation samples (both surficial clay and sand/gravel), and should identify how both the horizontal and vertical extent of contamination will be adequately addressed by the proposed locations. This plan will need to be approved by USEPA prior to beginning remedial activities.

6. Because ERH does not appear to have any technical limitations in terms of reaching the Removal Action Remedial Objectives, the use of a statistical approach to confirmation sampling in the surficial clays is not appropriate. The Removal Action Remedial Objectives will need to be achieved at each confirmation sampling location. In the event that ERH is unable to achieve these objectives within a reasonable time frame, Lockformer may propose alternative remedial approaches for achieving the required objectives.

7. Because of the potential for more technical limitations with regard to the SVE system in the lower sand and gravel, statistical methods are considered appropriate for demonstrating compliance with the remedial objectives, as long as the data are distributed normally or log-normally. Because operation of a long-term SVE system is not cost-prohibitive, no provision should be made for shutting down the system prior to the objectives being achieved. In the event that Lockformer believes that the objectives will not be achieved within a reasonable time frame, Lockformer must either augment or modify the existing SVE system for increased efficiency, or propose alternative remedial approaches for achieving the required objectives.

8. Because the bulk of the remediated contaminants will be removed from the subsurface in the vapor phase at potentially very high concentrations, ambient air monitoring is a key concern. In the event of carbon breakthrough, the ERH system cannot be shut down immediately while the carbon is replaced. Accordingly, continuous monitoring of the influent and effluent of the carbon units is recommended. Dispersion modeling of the stack effluent(s) should also be performed to demonstrate that perimeter monitoring will be sufficient. The ambient air monitoring plan that has been submitted as part of this document is insufficient. The ambient air monitoring plan (AAMP) should address, at a minimum, the following:

Development of Air Quality Standards (AQS)

- Time-integrated AQS
  - Determination of compounds of concern based on sampling and other appropriate data
  - Development of AQS based on National Ambient Air Quality Standards (NAAQS) or risk-based standards. Risk-based standards may be developed based on accepted modeling techniques (such as USEPA's PRG Tables), site-specific data such as exposure duration and frequency, and toxicological criteria from accepted databases (such as the Integrated Risk Information System)
- Real-time AQS
  - Determination of parameters to be monitored – should be parameters that indicate a potential exceedance

Specific Sampling and Analytical Procedures

- What parameters will be monitored (based on AQS)
  - Real-time sampling
  - Time-integrated sampling
- What specific monitoring equipment will be used
  - Calibration frequency and procedures
  - Standard equipment operating procedures
  - Preventive maintenance
  - Anticipated duration and frequency of equipment shutdown (for maintenance, changing elements, etc.)
- Specific sample collection and custody procedures
- Specific analytical procedures (including custody, analytical methods, quality assurance/quality control)
- Will background or upwind samples be taken? When, how often, and for what parameters?
- How will wind direction be determined? Will meteorological monitoring take place?
- Under what circumstances would a monitoring station be moved?
- If background sampling is performed, where, when and how often will it be performed? What parameters will be monitored?

Comparison of Sampling Data to AQS

- How often will data be evaluated and compared against the AQS standards?

Abatement Actions if Concentrations Exceed AQS

- What action levels for each compound will trigger abatement?

  - Real-time sampling exceedances
  - Time-integrated sampling exceedances
- What specific actions will be taken to ensure that human health and the environment are not at risk?
- How will the efficacy of abatement actions be evaluated? If the abatement actions are not effective in a given period of time, will work be stopped?
- How will background levels be taken into account when implementing abatement actions?

Quality Assurance (QA) measures

- What QA objectives (precision, accuracy, completeness, representativeness, comparability) will be used to evaluate sampling data?

- What QA methods will be implemented to ensure quality of sampling, calibration and analytical procedures?
- What QA methods will be used for data validation and reporting?
- Will system audits be performed? How often and by whom?
- What corrective action will be taken if QA standards are not met?

SPECIFIC COMMENTS

1. Figure 2.1.5-G does not show a contour line for 0.06 mg/kg at depth of 40-50 feet. TCE was reported in soil borings SB-807 and SB-805 at 51 ppm and 22 ppm, respectively. Please describe how these concentrations will be addressed.

2. Figure 2.1.9 – Please verify which concentration is correct for MW1114D. A TCE concentration for MW1114D of 1.3 ppm is shown on the Figure 2.1.9 and a concentration of 1.3 ppb was reported in Table 2.1.8.

3. Section 2, The tables in the report should have highlighted values where remedial objectives have been exceeded.

4. Page 2-5, Section 2.3, No regional groundwater map is presented. Please explain how the collected data was used.

5. Page 4-2, 2nd Paragraph, How deep will the soil borings be installed?

6. Figure 4.1.-1, Area 1 will not be additionally delineated to the west along the second row from the north. Please explain the reason for this exception.

7. Page 4-4, 1st Paragraph, No soil boring to the east is shown on Figure 4.3-1.

8. Page 4-6, 1st Paragraph, The pumping test should include a step test and a more detailed description for these activities to ensure that the test is performed correctly.

9. Page 5-1, 2nd Paragraph, It is stated that ERH will be used to a depth of 30 feet. On page 5-7, first paragraph, it is stated that in Area 1, the electrodes will extend to 22.5 feet bgs and in Area 2 to 24 feet bgs. Please explain these differences.

10. Page 5-4, 2nd Paragraph, The Confirmation Sampling Plan should include and describe the interim soil sampling effort.

11. Page 5-9, 5th Paragraph, and Figure 5.1-2, How will shallow vents, extending 3' into the tight soil, assure that vapors are collected from a depth of 30 feet in the clay? Is it possible for steam to migrate laterally or move deeper and condense in colder regions, effectively spreading the contamination? Please add some language addressing the potential for unintended migration. Will confirmation samples be collected immediately outside the treatment area to demonstrate that such migration has not occurred?

12. Page 5-14, 1st Paragraph, Why is the treatment of Area 2 initiated only after completing the treatment at Area 1? The current schedule shows that remediation at Area 2 will start approximately 7 months after remediation at Area 1 starts.

13. Section 8, Schedule, After the SVE pilot test is completed, the detailed SVE design should be submitted to the USEPA for review and approval.

14. How will groundwater leakage into the sand and gravel unit be addressed by the SVE system?

15. Page 5-20, 3rd Paragraph, 15-20-foot long screens could be too long to move air evenly through all the affected soils. It is suggested that pilot testing be performed at discrete intervals and subsurface airflow modeling be used to ensure efficient operation.

16. Page 5-32, 3rd Paragraph, A removal rate of 0.5 pound per day is not meaningful, unless it is compared to historical trend data. It is suggested that a definition involving an asymptotic condition be used to determine when to operate in pulsing mode. In addition, the SVE system should not be pulsed during the operation of the ERH. Three weeks is too long to wait between pulses. Liquid-vapor equilibrium in the subsurface will be achieved much quicker; waiting longer will unnecessarily extend the total treatment time.

17. Section 8, Figure 1, The sampling results for Area 1 and Area 2 should be submitted along with a Confirmation Sampling Plan to USEPA for review prior to beginning remedial activities. When will be the summary investigation document be provided to the IEPA?

18. The role of the IEPA is not specifically outlined in the roles and responsibilities for the project and should be included.

We look forward to discussing these issues with you further. You may me at (630) 371-1800.

Sincerely,
PARSONS CORPORATION

Sasa Jazic
Project Engineer

Richard M. Frendt, P.E.
Technical Director

SJ:rmf
Enclosure
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